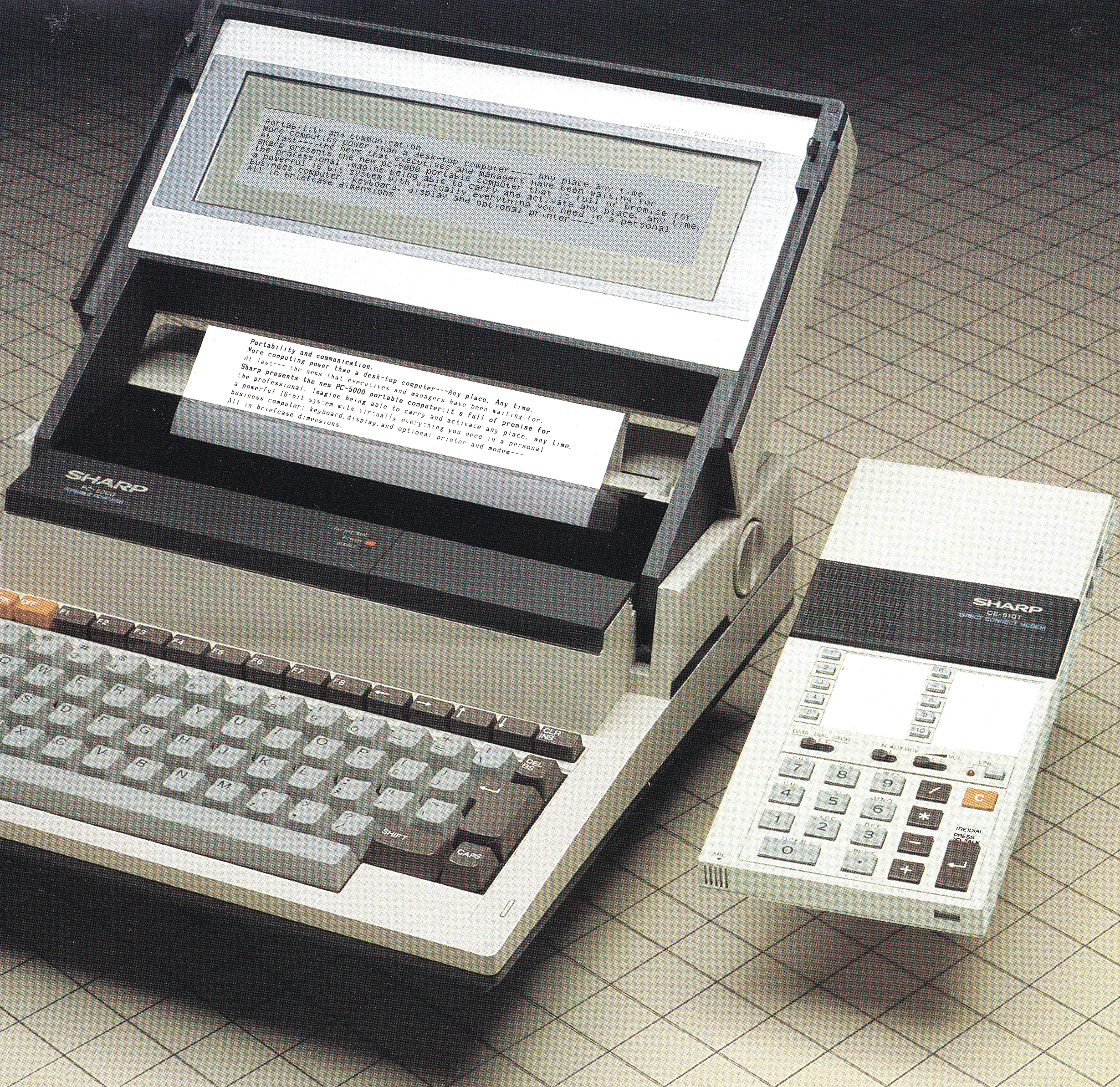
SHARP

THE COMMUTER COMPUTER™ PC-5000

Sharp Introduces the Portable Office. It Does Desk-top Work Where It Has Never Been Done Before.


SHARP
PC-5000
PORTABLE COMPUTER
SHARP
CE-510T
DIRECT CONNECT MODEM

PORTABILITY AND PERFORMANCE COME TOGETHER IN A REVOLUTIONARY NEW 16-BIT PERSONAL COMPUTER

Portability & Performance

At the Office—At Home—In-

Consider the possibilities of a powerful desk-top computer that can work wherever and whenever you want to work.

Sharp's Commuter Computer makes these possibilities a reality.

Sharp's microassembly technology incorporates all the components necessary for high-performance computing in one integrated, portable, lightweight unit. A rechargeable battery adds the final touch to this computer's remarkable mobility.

With the Commuter Computer, your travel time doesn't have to be downtime.

The PC-5000 is not just designed for the executive or professional, but for anyone who requires greater speed, efficiency, and portability in their ever-increasing information-gathering and management tasks. The Commuter Computer can store over 80 typewritten pages in its memory (128K bytes) and easily expand to accommodate over 500 pages (976K bytes). It is powered by the popular 8088, 16-bit microprocessor that takes advantage of the wide array of MS-DOS* software readily available in today's marketplace.

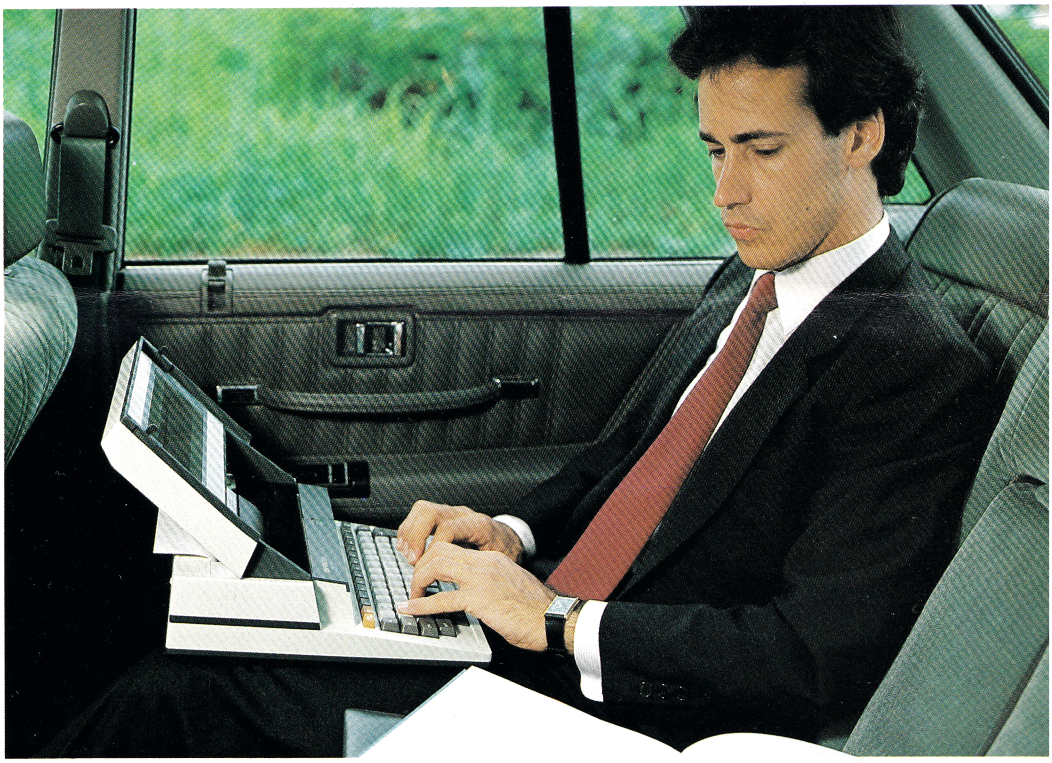
Virtually, everything you need in a personal business computer can be carried easily in your briefcase.

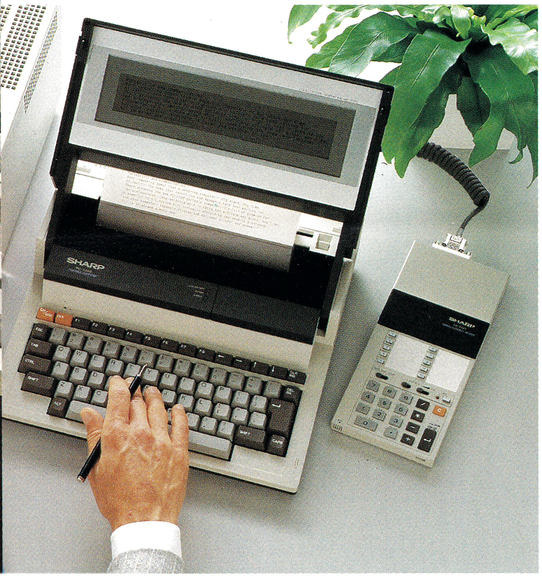
** MS-DOS is a trademark of Microsoft Corporation.*

Carry the Commuter Computer in your briefcase; it is your portable office.

between—Anywhere. Anytime.

In a car, on a train, anywhere, the Commuter Computer is a mobile workstation that keeps you up to date.



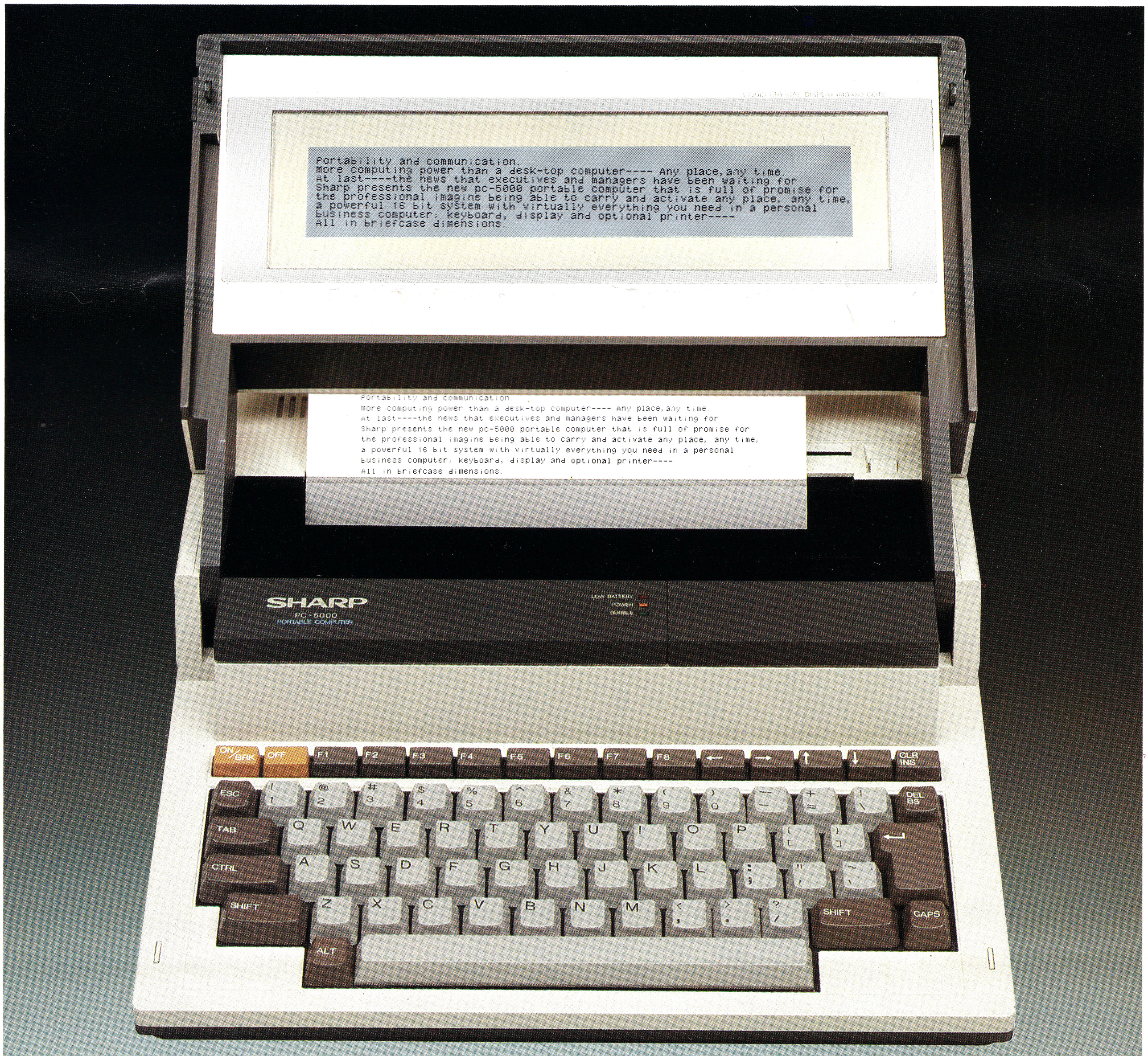


Complex business transactions can be completed quickly and easily with the help of the Commuter Computer—anyplace, anytime.

You can prepare proposals or enter orders directly into your company's mainframe computer from a client's office.

Portability & Performance

A Compact, Ready-to-run Com



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Portability and communication.
More computing power than a desk-top computer---- Any place,any time.
At last----the news that executives and managers have been waiting for
Sharp presents the new pc-5000 portable computer that is full of promise for
the professional imagine being able to carry and activate any place, any time,
a powerful 16 bit system with virtually everything you need in a personal
business computer; keyboard, display and optional printer----
All in briefcase dimensions.
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The Commuter Computer is a 16-bit portable computer that is all inclusive. Integrated in one small unit is a complete, ready-to-run CPU, display, and keyboard. Give the PC-5000 a heavy workload, and with a memory capacity of 128K bytes, expandable to 256K bytes, it can execute a variety of tasks. In addition to its massive memory, the Commuter Computer utilizes the 16-bit MS-DOS* operating system and takes advantage of a wide array of MS-DOS* software that is readily available in today's marketplace.

The Commuter Computer can be activated anywhere. An optional 37-character-per-second printer quietly types correspondence-quality copy faster than anyone can type. The optional modem/auto dialer puts you in touch with mainframe computers, data bases, and other computers via a simple telephone connection.

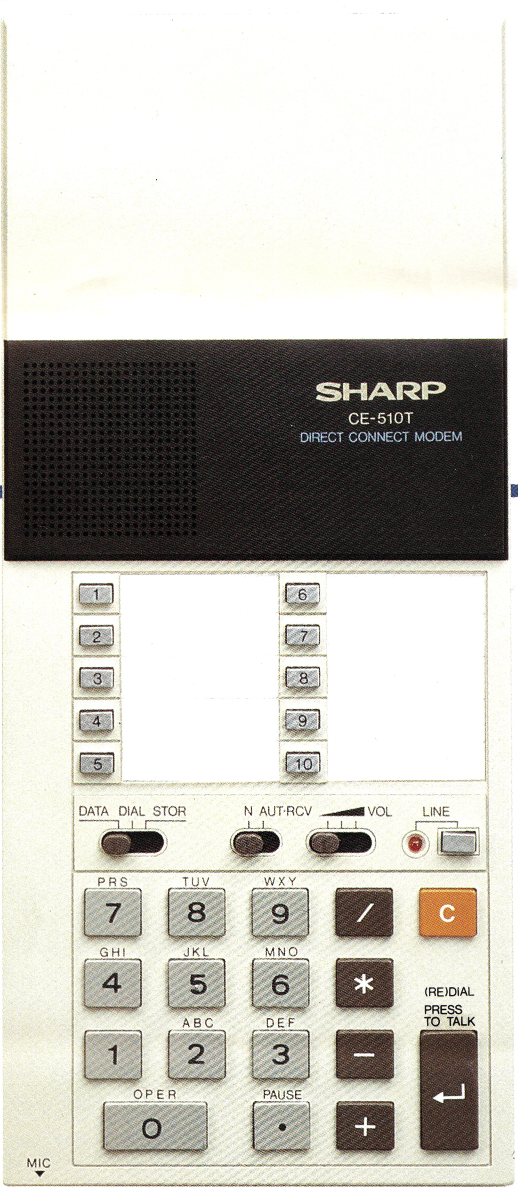
Computer

- 16-bit, 8088 microprocessor
- 192K bytes of ROM (128K bytes of file ROM, 64K bytes of ROM)
- 128K bytes of RAM (optionally expandable up to 256K bytes)
- 128K bytes of RAM on a removable bubble cartridge optionally available
- 8-line by 80-column liquid crystal display (LCD)
- Alphanumeric display of ASCII text
- Bit-mapped graphic capacity of 640 × 80 dots (over 51,000 pixels)
- Standard typewriter keyboard
- 8 user-definable function keys, programmable for 23 functions
- MS-DOS* operating system
- GW-BASIC*** programming language
- Standard RS-232C interface

puter System.

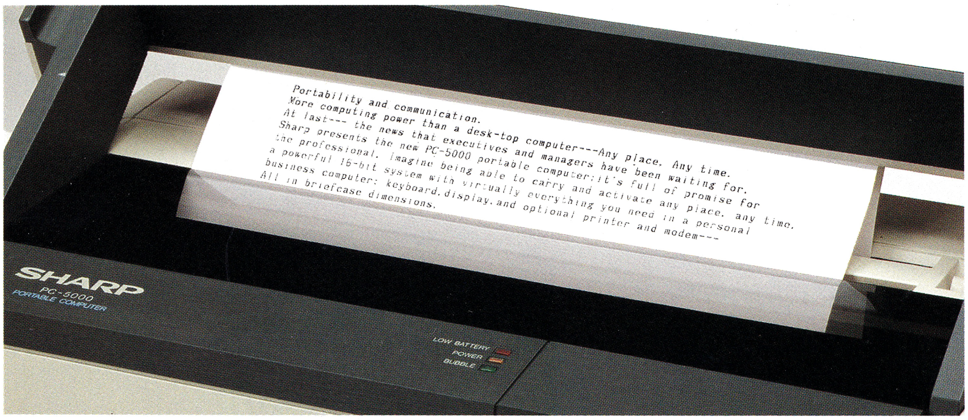
SHARP
CE-100B
MAGNETIC BUBBLE MEMORY
TITLE
SHARP CORPORATION

To store information, application software, files, or personal data, a 128K-byte removable bubble memory cartridge is available. The Commuter Computer has a special drive for the cartridge. It is this unique feature and innovative design that eliminates the need to transport bulky disk drives. It acts just like a typical disk drive and allows file transfer and information interchange between cartridges and floppy drives.


SHARP
CE-510T
DIRECT CONNECT MODEM
DATA DIAL STOR
N AUT·RCV
VOL
LINE
PRS
TUV
WXY
GHI
JKL
MNO
ABC
DEF
OPER
PAUSE
(RE)DIAL
PRESS TO TALK
MIC

The auto dialer/direct connect modem connects the Commuter Computer via a standard Bell-compatible jack to worldwide communications. Through it you gain access to central data bases, other computers, even your own mainframe. With the autodial feature you can store 10 phone numbers, 16 digits long, and gain single-button access via touchtone or telepulse lines. A speaker and microphone are built into the modem and allow conference calling. When not in use, the entire assembly fits conveniently into the rear of the display screen, taking no additional space.

- Bell 103 compatible
- Touchtone and telepulse dialing
- Redial feature
- 10-number auto dialer
- 16-digit storage
- Ringer and receiver
- Conference caller
- Separate numeric entry pad



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Portability and communication.
More computing power than a desk-top computer---Any place. Any time.
At last--- the news that executives and managers have been waiting for.
Sharp presents the new PC-5000 portable computer:it's full of promise for
the professional. Imagine being able to carry and activate any place. any time.
a powerful 16-bit system with virtually everything you need in a personal
business computer: keyboard.display.and optional printer and modem---
All in briefcase dimensions.
```

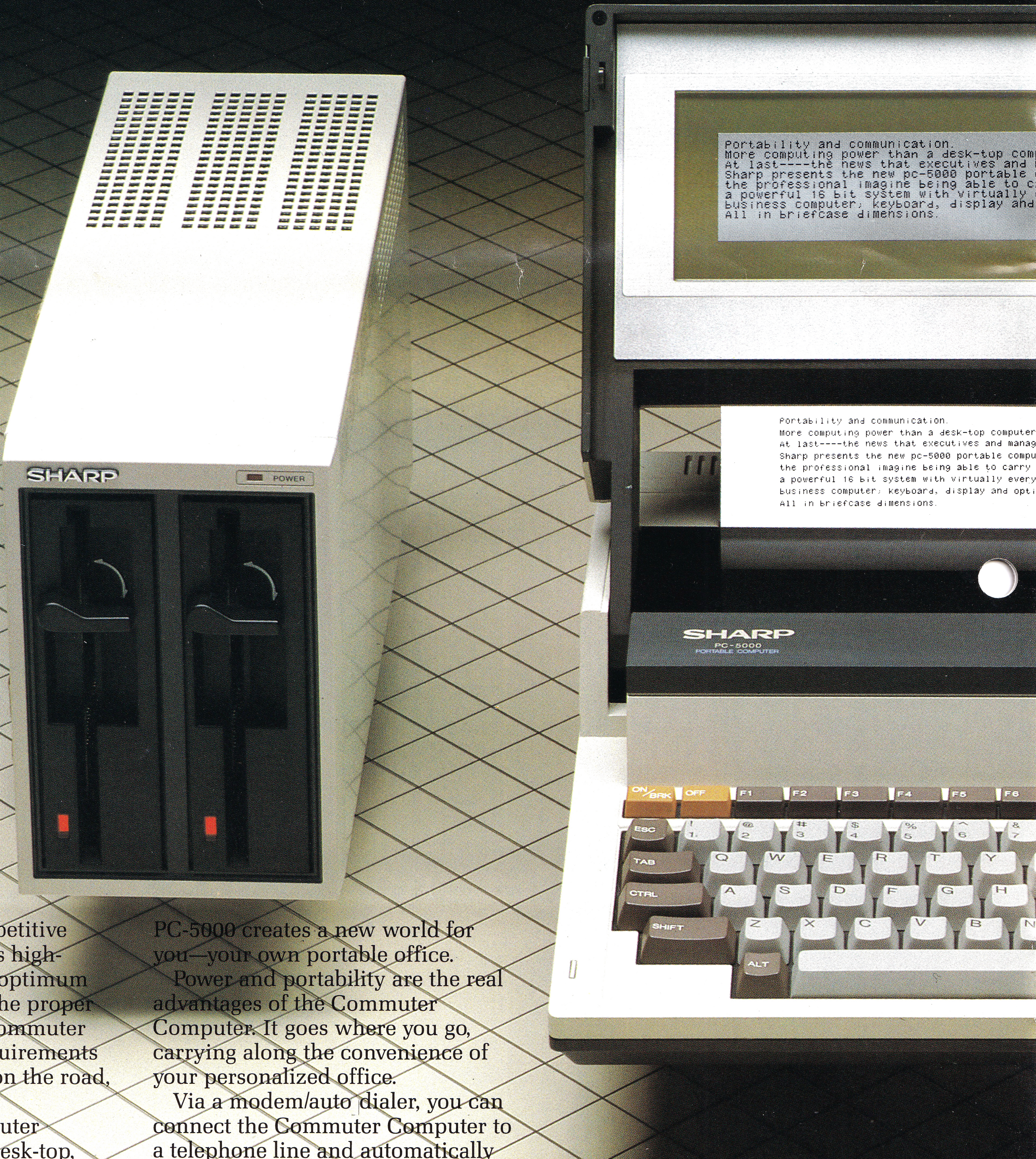
SHARP
PC-5000
PORTABLE COMPUTER
LOW BATTERY
POWER
BUBBLE

An innovative, battery-operated thermal transfer printer can be integrated into the design of the Commuter Computer. The thermal transfer system allows whisper-quiet printing on thermal or plain bond paper. When using plain bond paper, a cartridge ribbon is inserted to ensure correspondence-quality reproduction.

- 37 characters per second (12 characters per inch)
- 80-column print width
- Variable pitch (10, 12)
- Thermal transfer method serial printing
- Uses thermal or plain bond paper

Portability & Performance

The Commuter Computer™—Yo



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Today's fast-paced competitive business climate demands high-quality performance and optimum efficiency. Utilization of the proper equipment is vital. The Commuter Computer meets your requirements anywhere—in the office, on the road, in your home.

In the office, the Commuter Computer is a compact, desk-top, stand-alone computer capable of performing complicated tasks for today's business management. You can connect your PC-5000 to a host computer or data base for file transfer and data collection. Its word processing capability is ideal for report writing, text editing, or business correspondence. Whether alone or connected to a host computer, the PC-5000 creates a new world for you—your own portable office.

Power and portability are the real advantages of the Commuter Computer. It goes where you go, carrying along the convenience of your personalized office.

Via a modem/auto dialer, you can connect the Commuter Computer to a telephone line and automatically gain access to your mainframe central data base or another personal computer to renew programs, transfer files, communicate, and obtain the up-to-date information you need to be successful in a competitive world. Key information access is only a briefcase away with the Commuter Computer.

ur Portable Office.

LIQUID CRYSTAL DISPLAY 640×80 DOTS
uter---- Any place, any time.
anagers have been waiting for
omputer that is full of promise for
rry and activate any place, any time,
verything you need in a personal
optional printer----
SHARP
CE-100M
MEMORY MODULE (64K BYTE RAM)
SHARP CORPORATION
SHARP
CE-100B
MAGNETIC BUBBLE MEMORY
SHARP CORPORATION

The Commuter Computer Expands As Your Desire for More Powerful Computing Expands

As you chart the expansion of your business or plan your personal growth, you will demand more from the Commuter Computer. It expands with your horizons. Varied peripheral accessories are available. Built-in interfaces are the first step to system expansion. The Commuter Computer includes an RS-232C interface for communication with other computers and printers, and has a 2-slot expansion bus. It even has an audio cassette controller for those who require it. Built-in expansion slots permit the addition of two 64K RAM expansion modules that give you access to 256K bytes of user storage.

To store more voluminous information, optional mini-floppy disk drives are available. The interface is standard and the drive controller is built into the drive assembly for simple user connection. Two 5-1/4″ floppy drives are available and give 360K bytes of storage each. This brings the total storage capacity to 976K bytes, enough to store over 500 pages of text.

Integrated into the design of the Commuter Computer is a whisper-quiet correspondence-quality printer that prints faster than anyone can type. Its unique design permits installation while maintaining the compact, briefcase dimensions you desire.

Mini-Floppy Disk Unit (CE-510F)

To accommodate massive storage requirements, the Commuter Computer easily connects to a floppy disk drive unit. In addition to data, information, and file storage, a program from the floppy disk unit can be loaded into the bubble cartidge. This feature expands and enhances the storage capability of the Commuter Computer and allows standard diskettes and diskette-based programs to be run on the PC-5000.

- Two 5-1/4″ floppy drives
- 360K bytes of storage on each
- Dual-head system
- IBM**-file compatible

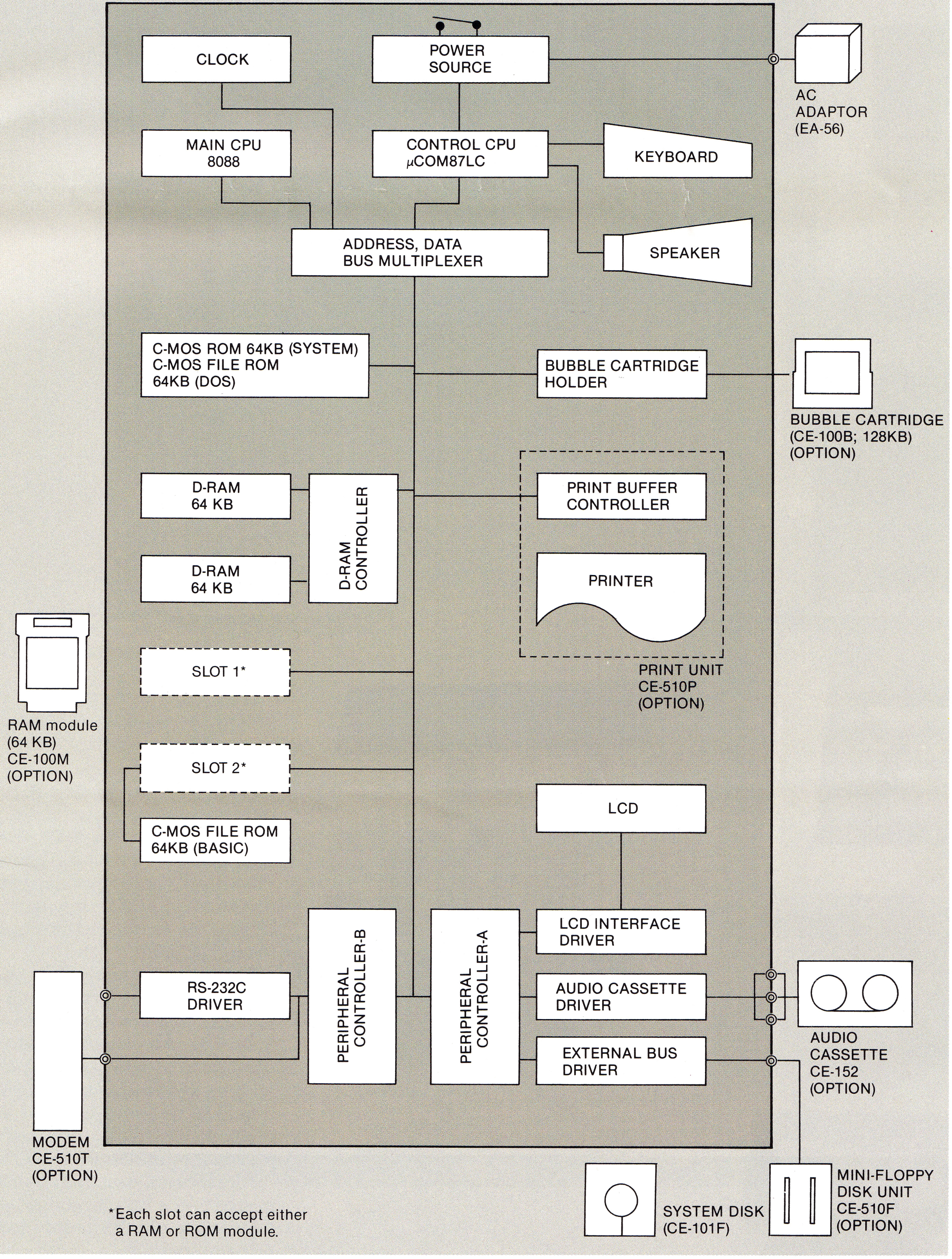
SHARP
POWER
MINI FLOPPY DISK DRIVE

SHARP
CE-100M
MEMORY MODULE (64K BYTE RAM)
SHARP CORPORATION
MADE IN JAPAN / FABRIQUE AU JAPON

RAM Expansion Modules (CE-100M)

The Commuter Computer's main memory can be expanded to 256K bytes of RAM by the addition of two 64K-byte expansion modules. The expansion ports are conveniently located in the bottom of the unit for simple user installation.

SYSTEM BLOCK DIAGRAM


CLOCK
POWER SOURCE
AC ADAPTOR (EA-56)
MAIN CPU 8088
CONTROL CPU μCOM87LC
KEYBOARD
SPEAKER
ADDRESS, DATA BUS MULTIPLEXER
C-MOS ROM 64KB (SYSTEM)
C-MOS FILE ROM 64KB (DOS)
BUBBLE CARTRIDGE HOLDER
BUBBLE CARTRIDGE (CE-100B; 128KB) (OPTION)
D-RAM 64 KB
D-RAM 64 KB
D-RAM CONTROLLER
PRINT BUFFER CONTROLLER
PRINTER
PRINT UNIT CE-510P (OPTION)
SLOT 1*
RAM module (64 KB) CE-100M (OPTION)
SLOT 2*
C-MOS FILE ROM 64KB (BASIC)
LCD
LCD INTERFACE DRIVER
AUDIO CASSETTE DRIVER
EXTERNAL BUS DRIVER
PERIPHERAL CONTROLLER-A
PERIPHERAL CONTROLLER-B
RS-232C DRIVER
AUDIO CASSETTE CE-152 (OPTION)
MODEM CE-510T (OPTION)
SYSTEM DISK (CE-101F)
MINI-FLOPPY DISK UNIT CE-510F (OPTION)

*Each slot can accept either a RAM or ROM module.

ortable Office.

CRYSTAL DISPLAY 640×80 DOTS
SHARP
CE-510T
DIRECT CONNECT MODEM
SHARP
CE-100B
MAGNETIC BUBBLE MEMORY
TITLE
SHARP CORPORATION
MADE IN JAPAN / FABRIQUE AU JAPON

Software

Software for the Commuter Computer is readily available. Its 16-bit MS-DOS* operating system takes advantage of the wide array of 16-bit software available in today's market.

Immediately available is **a word processing package** that allows you to create, edit, store, and save documents, letters, memos, or any form of written correspondence. **A communications package** allows you to "talk" to other computers, mainframes, data bases, even another PC-5000. Correspondence you create on the word processing package can be sent via electronic messages to a reception point.

Spread sheet analysis is easily accomplished for forecasting, budget analysis, and answering "what if" questions. **An executive planner** allows you to schedule your time with an appointment book, create free-form text, address book functions, do list preparation, and make personal mini-data-base entries.

All software functions can be tied together by a unique scratch pad for integration of information between software modules.

PC-5000

SPECIFICATIONS

CPU		16-bit, 8088 microprocessor
Memory	ROM	192K bytes standard
	RAM	128K bytes standard; expandable to max. 256K bytes (option)****
	Bubble memory	128K bytes (option)
Display	Type	Liquid Crystal Display
	Alpha-numeric	80 characters × 8 lines
	Graphic	640 × 80 dots
Keyboard		Standard typewriter format; 8 definable keys
Printer CE-510P (option)	Type	Thermal transfer method
	Printing capacity	80 characters per line (12 characters per inch) 66 characters per line (10 characters per inch)
	Graphic	1,197 dots per line
	Speed	Approx. 37 characters per second (12 characters per inch) Approx. 30 characters per second (10 characters per inch) 555 dots per second (graphic)
	Paper	Plain bond paper or thermal paper (A4, B5, letter size)
	Ribbon	Cartridge type, black color
I/O Interface		RS232C; audio cassette (1000 bps.); external bus driver (8 bits handshake)

Peripheral options	Audio cassette	Connectable		
	Mini floppy disk	360KB/disk, dual head, double density Media: 5-1/4 inch		
	Modem	300 bps. (auto dial)		
	Others	RAM module (64 KB)		
Software	Operating system	MS-DOS* (Version 2.0)		
	Program language	BASIC		
Extra functions		Clock, sound generator		
Power source		Rechargeable lead battery EA-50B (DC 6V)/ approx. 6-hour operation; AC adaptor (EA-56)		
Operating temperature		41°F—95°F (5°C—35°C)		
Dimensions		12-27/32″(W) × 12″(D) × 3-7/16″(H) 326(W) × 305(D) × 87.5(H) mm		
Weight	Minimum system	PC-5000 Battery Bubble cartridge Total	8.82 lbs. 0.77 0.15 9.74	(4.0 kg) (0.35) (0.07) (4.42)
	With printer	Printer	3.0 lbs.	(1.4 kg)
	With modem/ auto dialer	Modem AC adaptor Total	1.1 lbs. 1.8 2.9	(0.5 kg) (0.8) (1.3)
	Floppy with cable		13.6 lbs.	(6.16 kg)

*MS-DOS is a trademark of Microsoft Corporation.
**IBM is a trademark of International Business Machines Corporation.
***GW-BASIC is a trademark of Microsoft Corporation.
****To obtain 256KB RAM, replace a 64KB BASIC ROM module with a 64KB RAM module.

GW BASIC COMMANDS

COMMANDS	FOR PROGRAMMING	OPTION BASE, AUTO, RENUM, DELETE, EDIT, NEW, LIST, LLIST, RUN, CONT, CLEAR, TRON, TROFF
	FOR DISK OPERATION	LOAD, SAVE, FILES, NAME, KILL, MERGE, RESET, SYSTEM, BLOAD, BSAVE
GENERAL STATEMENTS	DEFINITIONS	DEF FN, DEF INT/SNG/DBL/STR, DEF SEG, DEF USR
		REM, END, FOR-NEXT, GOTO, ON-GOTO, GOSUB-RETURN, ON-GOSUB, STOP, IF-THEN-ELSE, WHILE-WEND, LET, SWAP, DIM, RESTORE, LSET, RSET, RANDOMIZE, CALL, ERROR, ON ERROR GOTO, RESUME, MOTOR, CHAIN, COMMON, ERASE, WAIT
I/O STATEMENTS		INPUT, LINE INPUT, PRINT, PRINT USING, WRITE, LPRINT, LPRINT USING, OUT, DATA, MID$=, READ
	DISKS	OPEN, CLOSE, INPUT #, PRINT #, PRINT # USING, WRITE #, LINE INPUT #, FIELD #, GET #, PUT #
FUNCTIONS		ABS, ATN, CDBL, CINT, COS, CSNG, EXP, FIX, INT, LOG, POKE, RND, SGN, SIN, SQR, TAN, CVI, CVS, CVD, INSTR, CSRLIN, EOF, ERL, ERR, FRE, INP, LOC, LOF, LPOS, PEEK, POINT, POS, USR, VARPTR, VARPTR$
STRINGS		CHR$, LEFT$, MID$, RIGHT$, SPACE$, STRING$, HEX$, INKEY$, INPUT$, MKI$, MKS$, MKD$, OCT$, SPC, STR$, TAB, ASC, LEN, VAL, TIME$, DATE$
GRAPHICS	IMAGE PROCESSING STATEMENTS	SCREEN, WIDTH, LOCATE, COLOR, CLS, GET, PUT, LINE
	GRAPHIC STATEMENTS	PSET, PRESET, CIRCLE, PAINT, DRAW
SOUND STATEMENTS		BEEP, PLAY, SOUND
FUNCTION KEY CONTROL		KEY, KEY LIST, KEY ON/OFF/STOP, ON KEY GOSUB
COMMUNICATION CABLE CONTROL		COM ON/OFF/STOP, ON COM GOSUB

Design and specifications subject to change without notice.

Available at

SHARP

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I.E.D. Systems
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